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Reach to Teach

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REACH TO TEACH

A Capstone Experience/Thesis Project

Presented in Partial Fulfillment of the Requirements for

the Degree of Bachelor of Interdisciplinary Studies with

Honors College Graduate Distinction at Western Kentucky University

By

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ABSTRACT

Multiple intelligences theory of Howard Gardner are used as a foundation of research in order to explain how educating students of all learning styles should include interdisciplinary methods and creative applications. Primary and secondary research of Howard Gardner's theory and interdisciplinary methods, specifically the Integration Model and Broad Model approaches were completed. Two different lesson plans demonstrating how to teach students integrating two disciplines while including creativity were generated as examples of thesis. Qualitative research on creativity and motivation identified connection between the two and why interdisciplinary methods enable more possibilities of adding creativity to lessons taught. Advantages include reaching all different types of learning styles in students so that they can participate in their own education. Additionally, straying from a traditional linear education that mostly teaches only toward two of the learning styles from Gardner's multiple intelligence theory improves assessment possibilities when transforming education to include interdisciplinary methods with creativity is done.

Keywords: Howard Gardner theory, Interdisciplinary Studies, Creativity, Education, Motivation, and Assessments

Dedicated to

Emma Cowles, my love bug, who has made every one of my days full of happiness; God for giving me the strength to complete this; Ray, Linda, and Chad Cowles for the loving care they give my daughter when I needed time for my studies.

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FIELDS OF STUDY

Major Field: Interdisciplinary Studies
Emphasis in Education

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CHAPTER 1

INTRODUCTION

The theories of Howard Gardner show that there are eight multiple intelligences. The intelligences each have independent forms of processing learning. According to Howard Gardner (1998) research, when education is based around only two of the eight multiple intelligences causing students lose interest in learning because their grades are not representative of the effort they may have put into the work. I have created two lesson plans (A and B) to represent how to reach to teach multiple intelligences to help students reach self-actualization. For the reasons of standardized testing usually being based on only verbal/linguistic and mathematics/logical my demonstrations of assessing include other multiple intelligences so everyone has a fair chance at succeeding at assessments given.

As William Newell (1983) points out, the heart of interdisciplinary studies method is "the openness to alternative ways of looking at the world" (p. 17). Interdisciplinary studies is a process that combines at least two disciplines like a dove-tail joint and finds the overlapping concepts from each discipline in order to create the glue that holds each piece. The Broad Model and Integration Approaches are needed to educate with interdisciplinary methods so students will have a broader knowledge base. Content being taught then enables students with positive reinforcement so they can be credited for their achievements through fun activities found in the lesson plans created as

a game for children. By implementing a broader content offered to students when educating and using interdisciplinary methods, teachers will have plenty of new ideas and physical ways of adding ordinary learning and creativity. Many examples like using a picture box to assess are included to get an idea of how the creativity of teachers motivates students and how a lesson plan that includes Integration and Broad Model Approaches. When reading *Reach to Teach* one will understand the answer to: Why is it so important to transform education to include interdisciplinary methods and add creativity?

CHAPTER 2

PEOPLE HAVE DIFFERENT INTELLIGENCES

There are eight different intelligences of the Howard Gardner theory that are applied to every humans' way of learning, not just students. A person usually may only have one intelligence form of information processing, but most have two or more with one of the multiple intelligences dominating and it is the determining factor of how the person comprehends knowledge. "Realizing that he was stretching the word intelligence beyond its customary application in educational psychology, Gardner proposed the existence of a number of relatively autonomous *human intelligences*. He defined intelligence as the capacity to solve problems or to fashion products that are valued in one or more cultural settings and detailed a set of criteria for what counts as a human intelligence" (Gardner and Hatch, 1989, p.5). Howard Gardner's multiple intelligences list include: verbal/linguistic, logical/ mathematical, visual/spatial, bodily/kinesthetic, musical/rhythmic, interpersonal, intrapersonal, and naturalist. "Most often teachers use instructional strategies falling within only two of the intelligences: logical/mathematics and verbal/linguistic" (Bolak, Bialach, and Dunphy 2005, p. 2). Logical/mathematical intelligence is based on the students who learn from understanding number patterns, relations to calculations, and logical patterns, including science relations. Verbal/linguistic intelligence is based on the students who learn and understand writing assignments and reading, as they relate everything using language and communication.

Already explaining the features of verbal/linguistic and logical/mathematics intelligence leaves six of the multiple intelligences to explain. In no particular order, first of all, visual/spatial intelligence uses visual and spatial needing to understand information being learned. Second, bodily/ kinesthetic intelligence uses parts of the body to express ideas and solve problems. Next, musical/rhythmic intelligence learns from understanding through sound. Fourth, intrapersonal intelligence realizes and differentiates information the self-reflection. Differing from the last is interpersonal intelligence and needs group work learning from others feelings and reactions. Lastly, naturalist intelligence processes information from identifying and using features of the environment. "To arrive at his list of intelligences, Gardner and his colleagues examined the literature in several areas: the development of cognitive capacities in normal individuals; the breakdown of cognitive capacities under various kinds of organic pathology; the existence of abilities in "special populations," such as prodigies, autistic individuals, idiot savants, and learning-disabled children, forms of intellect that exist in different species; forms of intellect valued in different cultures; the evolution of cognition across the millennia and two forms of psychological evidence-the results of factor analytic studies of human cognitive capacities and the outcome of studies of transfer and generalization" (Gardner, Hatch, 1989, p. 5). With having such detailed research from Gardner and his colleagues who broke down cognitive capacities explaining learning styles and how they work teachers need to acknowledge his effort and theory addressing how to teach to students of all learning styles. When teaching instructional strategies it is important to reach to teach as many if not all of the multiple intelligences, so all students have an opportunity to learn. "In contrast to traditional paper-and-pencil test, with their inherent bias toward linguistic

intelligence, fair measures seek to respect the different modes of thinking and performance that distinguish each intelligence" (Gardner, Hatch, 1989, p. 6). Examples of reaching to teach multiple intelligences are listed in Table 1.1

Verbal/Linguistic	Reading or writing short stories
Logical/Mathematics	Include patterns or create puzzle activities
Visual/ Spatial	Web information or have students create maps or charts
Bodily/Kinesthetic	Use drama or physical education activities
Musical/Rhythmic	Innovate or include dance, songs, or instrument activities
Interpersonal	Have students work in group projects
Intrapersonal	Have students create personal timelines or journal up-keep
Naturalist	Take class on outside adventures to compare learning objectives to nature, have pets and/or plants in class to compare ideas like the cycle of life

Table 1.1 Examples to Teach Multiple Intelligence Activities

Teaching aimed toward multiple intelligences enables students to reach self-actualization. In elementary schools it is critical that students are taught by means of equalizing education and with self-learning on how to collaborate their learning styles in preparation toward adulthood. When using multiple intelligences theories to teach, students are able to identify their strengths and weaknesses. For example, using the intrapersonal learning style to have students keep daily journals, keep timelines, or including them in their own self-assessment for each day leads them to the awareness of

the specific times when learning came easier and when learning other activities aimed toward a different intelligence was harder. When the students understand where their strengths and weaknesses reside, sooner than later, the teacher should encourage their strengths to be taken into consideration for future direction. "Although few occupations rely entirely on a single intelligence, different roles typify the 'end states' of each intelligence. For example the 'linguistic' sensitivity to the sounds and construction of language is exemplified by the poet, whereas the 'interpersonal' ability to discern and respond to the moods and motivations of other people is represented in the therapist" (Gardner, Hatch, 1989, p. 5).

The teacher should explain to the students why certain activities in class are easier or harder for individual in that the activities are focused toward certain multiple intelligences. In brief, the teacher should explain the different intelligences from Howard Gardner (1989) theory so that the student has knowledge that just because reading or math assignments do not result in complete understanding with their effort applied, it does not mean they have a low intelligence quotient. Instead, they can be taught how to collaborate the weakest intelligences with their strongest intelligences and how they can begin to self-learn when confronted with traditional logical/mathematics and verbal/linguistic teaching methods. For instance, if a teacher gives an assignment based on verbal/linguistic intelligence alone, such as a reading assignment, and the students are aware that their weaker based learning style is verbal/linguistic the student needs to know how to be able to transform the assignment given to a multiple intelligence learning style. See a step-by-step procedure teaching methods for teaching students in Table 1.2 explaining how to collaborate and transform multiple intelligences, using the example of

the weakest intelligence being verbal/linguistics. In this example, teachers can help students learn how to transform a multiple intelligence that the student is weak in to a multiple intelligence increasing their chances of achieving success because the student reaches self-actualization. "Tying the activities to inviting pursuits enables students to discover the develop abilities that turn increase their chances of experiencing a sense of engagement and of achieving some success in their society" (Gardner, Hatch, 1989, p. 7).

Step 1. Sit down at a table in quiet area.
Step 2. Open reading assignment issued.
Step 3. Retrieve a piece of paper, pencil, and a highlighter.
Step 4. Slowly begin to read assignment using stopping points to highlight when valuable information appears.
Step 5. Use blank paper, turn horizontally, and draw a circle in middle of paper writing reading topic or title.
Step 6. From the circle draw connecting lines diagonal about 3 inches from edges.
Step 7. At the end of each of the lines, write brief notes or possible relational informational of value.
Step 8. If the student understands there are elements of reading such as; plot, characters, settings, climate points, and main idea label the notes as such or after related valuable information.
Note: If the steps are followed the students would have created a web to look at after reading through assignment and should be able to interpret through transforming a verbal/linguistic assignment into a visual/spatial assignment.

Table 1.2. How to collaborate and transform Howard Gardner's multiple intelligences theory, if individuals' weaker learning style is verbal/linguistic intelligence and reading assignment is issued.

Based on Table 1.2, teachers explaining how to collaborate and transform assignments to students does not help when timed standardized test are given; education reform begins by changing methods of assessment. According to Hatch and Gardner (1989), "In our view, a principal value of the multiple intelligence perspective –be it a theory or a 'mere' framework –lies in its potential to contribute to education reform. In both cases, progress seems to revolve around assessment. To demonstrate that the

intelligences are relatively independent of one another and that individuals have distinct profiles of intelligences, assessments of each intelligence have to be developed" (p. 6). In school systems there are standardized tests that are used to assess taught knowledge to students that they have learned from an accumulation of calendar periods. The problem with standardized tests also resides in the same problem in the beginning of this chapter standardized test are also biased from verbal/linguistic and logical/mathematics intelligence only. With regard to standardized testing being timed as well, students do not have the time to give toward transforming limited intelligence learning assessments into their strongest multiple intelligence area. This lack of time for translation leaves the students with weaker learning styles in the verbal/linguistic or logical/mathematics intelligence an unfair chance at success. As Gardner and Hatch (1989) points out: "To take advantage of students multiple intelligences, there must be some way to identify their strengths and weaknesses reliably" (p. 6). With the research from Gardner's (1989) multiple intelligence theory, the technology available to teachers, along with a new decade of standard core content which includes broad models of all curriculum, there should not be biased standardized testing because everyone is different.

With learning styles and education systems employing teaching through various intelligences, the potential is to assess the abilities more exactly than the standardized tests currently offered. Dolezalek (2008) stated, "In addition, even if a test is standardized, students' performance on the test is the same for every student who takes it, not all students are the same. Some students have test anxiety, which means that they get very nervous about taking test. Students with test anxiety rarely do well on test, even if they know the material. Other students have certain learning disabilities that make test

very difficult for them" (p. 23). According to this research, people have disabilities and become nervous when it comes to test taking and with not doing their best on standardized test. This is counterproductive to the thought of assessment as supposedly helping their education, giving the teachers and parent/guardian an understanding of the students' intelligence level. Instead, "Drawing information from the regular curriculum ensures that the activities are familiar; introducing activities in a wide range of areas makes it possible to challenge and examine each intelligence in an appropriate manner" (Gardner, Hatch, 1989, p. 6). In this manner, students should be grouped by their strongest multiple intelligence for objectives needing to be assessed even through standardized testing. For example, an interpersonal intelligence assessment should include having other people to be a part of the assessment to demonstrate the students' intelligence capacity. This could include letting students take photos to demonstrate understanding a short story and describing their elements. Testing can be done also with the individuals' weaker intelligence, if, for instance, logical/mathematics is needing to be assessed create the testing through student's stronger intelligence, using bodily/kinesthetic intelligence to create dancing or activity courses in order to demonstrate logical/mathematics understanding. Such approaches would show Gardner and Hatch's (1989) concept that, "Together these demands for assessments that are intelligence fair, are based on culturally valued activities and take place within a familiar context naturally lead to an approach that blurs the distinctions between curriculum and assessment" (p. 6).

CHAPTER 3

THE NEED OF INTERDISCIPLINARY METHODS

In order to understand Interdisciplinary Studies, a person has to first understand learning through a discipline. Traditionally students study through one discipline building and accumulating knowledge. Organizing knowledge from only one discipline means understanding the concepts, assumptions, and theories, and practicing the goal they are trying to attain. For example, elementary students who are being taught mathematics as part of the curricula are confined to learning the concepts of mathematics with the assumption goal that the student understand how to use formulas and logic. "The term 'discipline' has two principal modern usages: it refers to a particular branch of learning or body of knowledge, and to the maintenance of order and control amongst subordinated groups such as solders, prison inmates or school pupils, often through the threat of physical or other forms of punishment" (Moran, 1970, p. 14). In following, Joe Moran's quote the form of punishment for school pupils learning through a discipline are failing grades. The idea that all students learn with effort on the concepts of only one discipline excludes most of the students who learn through different multiple intelligences.

Instead of teaching through one discipline at a time, students need to be educated by integrating the curriculum, utilizing interdisciplinary methods and reaching all

learning styles during the same lesson. In order to transform education to include interdisciplinary methods one needs to understand Interdisciplinarity. Interdisciplinary Studies is the pulling together and synthesizing two disciplines insights to find overlapping concepts from both disciplines. For example, if an egg is one discipline and milk is another discipline one will combine and stir the two disciplines. The finished product being raw scrambled eggs represents Interdisciplinarity. Pouring the integrated eggs into a pan does not change the synthesis of the now scrambled eggs, but creates broader options for eating them. Because of the integrating of the milk and eggs, one could choose to make scrambled eggs or to create an omelet. While the overlapping ingredients are the same, the final result differs depending on the 'model or approach' to cooking (research) and the desired outcome (resulting integration). "'Interdisciplinary' has something to please everyone. Its base, *discipline*, is hoary and antiseptic, its prefix *inter* is hairy and friendly. Unlike fields, with their mud, cows, and corn, the Latinate *discipline* comes encased in stainless steel: it suggests something rigorous, aggressive hazardous to master; *Inter* hints that knowledge is a warm, mutually developing, consultative thing (Frank, 1988, p. 100). Instead of seeing the egg and milk as separate entities, sterile or stale, the integrating of eggs and milk maintains fluffier and richer texture no matter how cooked.

An interdisciplinary method that will help integrate education is the Broad Model Approach. Improving education by integrating more than one discipline is the purpose of

this method. The Broad Model Approach helps teachers educate students to learn by observing with a broader frame of thinking. This approach helps students to map complex problems by reflecting on each step through the process of exploring broader knowledge base. Students are able to explore with wider opportunity and retrieve knowledge clearer because of the overlapping disciplinary tools. The broad model approach takes advantage of methods, concepts, theories, assumptions, and insights of disciplines. As Allen Repko (2014) explains, "The model is 'broad' because it draws on all disciplines for insights whether they are epistemology distant or close; uses all 'disciplinary tools' to study a problem… makes the process of integration explicit and transparent by breaking it down into discrete steps that require reflecting on earlier steps… importantly what the model integrates are not *disciplines* or *their perspectives* but the insights they generate" (p. 187). The Broad Model Approach is an improvement over current methods because it assist teachers to educate with a variety of insights and students have additional opportunities to be credited for their work.

For instance, science and physical education are two different disciplines. When integrated utilizing the Broad Model Approach the teacher has to concentrate on the disciplinary methods that will overlap. Science focuses on a question, hypothesis, observing, research, and conclusion. Physical Education has a task, thought process, procedure, application, and self-reflection. The educator must find the overlapping relationships between Science and Physical Education for the assignment given. The result must also allow the relationship of the disciplines to be integrated, with their weaker intellect being a basis for their work. When integrating the two disciplines the students should understand the insights through bodily/kinesthetic and logical

intelligences. The goal is to enhance by means of the overlap so that the students have a broader knowledge than working in just one discipline. Another interdisciplinary method that would help to reach to teach to several intelligences would be the Integration Approach where a common ground is created for students to acknowledge insights clearly. According to Repko (2014), "Integration is the process used to achieve the ultimate goal and purpose of interdisciplinary work, which is to produce an interdisciplinary result" (p. 191). The process of applying the combination of two or more disciplines to educate is integration; here, students having a vivid understanding of the insights is key. The Integration Approach does not change the elements of a discipline, but by educating students in the same manner as the Broad Model Approach discussed earlier, creates an easier path to understand disciplinary elements because of more information being available when combined or integrated. The Integration Approach takes advantage of how each discipline has a different view of looking at the world and has assumptions that lead to conflicting insights. According to Augsburg (2006), "The interdisciplinarian, then may not simply combine disciplinary insights; rather, each world view and its assumptions underlying those insights must be illuminated and then evaluated in the context of the question at hand, before any interdisciplinary answer can be attempted" (p. 81).

The Integration Approach is the method to synthesize two disciplines, such as English and Music, by overlapping their disciplinary tools. For example, the elements of English include parts of speech, sentence elements, punctuation, and word use; the elements of Music include timbre, rhythm, dynamics and texture. The issue is how to teach the elements of both disciplines to students reaching different learning styles

referencing Gardner's (1989) theory. However, poetry uses stanzas, form/metrical patterns, sound patterns, rhyme and rhythm. Singing poems or reading music lyrics allow for students to gain a vivid understanding of the overlapping disciplinary elements. Integrating English and Music, students are able to learn the elements from Gardner's (1989) theory of the following intelligences: verbal/linguistic, spatial/ visual, musical/rhythmic, interpersonal, intrapersonal, and possibly even naturalist if the teacher includes creativity. As being integrated, it creates a common ground promoting education in more than just one of the multiple intelligences.

An important factor in integration is creating a common ground. A common ground is needed to aide educating students so they learn and remember about how they were educated by a comprehensive understanding. As Repko (2014) explains, "The possibilities are summed up in the term 'more comprehensive understanding' of the subject, problem, or question. We define more comprehensive understanding as a cognitive advancement that results from integrating insights that produces a new whole that would not be possible using single disciplinary means" (p. 191). For instance, if a teacher uses the interdisciplinary methods either of the Broad Model and Integration Approach they use elements from the disciplines to generate a more comprehensive understanding of which the finished product focuses on the common ground between disciplines.

An important factor in transforming education to include interdisciplinary methods is that it enables student progress with positive reinforcement so they are credited for their achievements. With the approach of integrating disciplines through the Broad Model, students learn where their strengths and weaknesses reside in a manner to

the collaborating approach as explained in Chapter Three. Here too, teachers could assess based on students individual strengths and weaknesses. The accomplishments of the students would be positive reinforcement based on their broader knowledge.

Studies show that having students aware of their achievement allows for students to accomplish even more. By using interdisciplinary studies methods the students the students can gain self-respect from a more comprehensive understanding. Education has a critical need for positive reinforcement connecting student's self-awareness of the achievements they earn. It is widely known that: "Teachers quickly come to recognize the warning signs of poor motivation in their classroom: students put little effort into homework and class work assignments, slump in their seat and fail to participate in class discussion, or even become confrontational toward the teacher when asked about an overdue assignment. One common method for building motivation is to tie student academic performance and classroom participation to specific rewards or privileges" ("Encouraging Student," n.d., p. 1).

An example of why positive reinforcement enables education with regard to interdisciplinary studies is that students can participate in more hands-on activities. The creativity of lesson plans when teachers integrate two disciplines such as Mathematics and Physical Education ensures that students have the experience of participating in fun activities verses traditionally studying in a classroom that inhibits individual student learning styles. "Engaging students and helping them to develop knowledge, insights, problem solving skills, self-confidence, self-efficacy, and a passion for learning are common goals that educators bring to the classroom, and interdisciplinary instruction and exploration promotes realization of the objectives" ("Why Teach," n.d., p. 1).

Creativity from teachers who educate with interdisciplinary methods awakens a passion for learning. The activity created also can be a form of positive reinforcement as required for advancement.

CHAPTER 4

CALLING ALL CREATIVITY

Creativity is a biologically, physically, and psychologically dynamic approach to motivating students by putting extra effort, interacting new ideas, adding to ordinary ways of doing something. Employing creativity when educating inspires students to become more involved. As Hurley (2002) explains, "Because we emphasize raising students' test scores in today's schools…aesthetic experiences provide an opportunity for principals to balance the intellectual and rational approaches [by]…experiencing and exploring human creativity. We reach our potential as we develop our aesthetic sensibilities and share them with others" (p. 25). Without creativity, students can get bored and begin to have behavior problems. Exploring creativity is not hard to accomplish, especially when interdisciplinary methods are united with education. Examples of creativity are as easy as giving activity choices where the students complete one activity or another to fulfill assignment. Students can be assessed on the same achievement. Adding creativity to the classroom helps educate multiple intelligences, as do examples included in this project. Another example is to include Art instruction as part of the integration method within a curricula. Even if the teacher acts a little silly at times this is a form of creativity because it breaks any tension in the classroom. Students are psychologically affected from laughter and when students laugh they can become motivated.

Motivation must be a part of a classroom in order for students to fully engage during education. There are two types of motivation. Intrinsic motivation involves "the innate propensity to engage one's interest' and it 'emerges spontaneously from organismic psychological needs, personal curiosities, and innate striving for growth" (Reeve, 2001, p. 24). Extrinsic motivation is "environmentally created reason to innate or persist in an action" (Reeve, 2001, p. 24). Teachers should have intrinsic motivation being that they have a psychological need, personal curiosity, and strive for to have growth of knowledge. Students have extrinsic motivation because the teachers creativity combined with education including interdisciplinary methods, is environmentally created for the student. It is important to realize creativity as a dynamic approach to education that inspires students, motivates them to participate and excel in individualized learning. It not only improves test scores but the overall education experience.

An important factor of educating within creativity resides in integrating disciplines. Utilizing interdisciplinary methods opens many perspective ways for teachers to be creative offering students a unique thought process to create common ground. As in, "The arts…invite students to explore the emotional, intuitive and irrational aspects of life…while affirming the interconnectedness of all forms of knowing. This is why education without arts is an incomplete education" (Fowler, 1994, p. 6).

CHAPTER 5

SETTING THE EXAMPLE

In the past chapters I have provided reasoning on why schools should transform their methods and principles of disciplinary biased learning to educating students with creativity and interdisciplinary approaches. Using different integration and creative methods to educate students helps them with all types of learning. Demonstrations of these concepts are set up through lesson plans A and B and are located in the end of this chapter. These lesson plans demonstrate how teaching interdisciplinary studies methods provides student knowledge of how to apply their intelligence learning style and strengthen their abilities of learning. For example, if math was integrated with music more students might not find math intimidating. Opening the box of formulas and concepts of math to include the structure of music would equalize learning for those individuals that struggle or have different levels of intelligences.

For these demonstrations and any lesson plan following my concepts there are certain criteria that should be followed. In the beginning of integrating either interdisciplinary approach (Broad Model or Integration), the teacher has to imagine what the objectives will be for lesson to be taught. These will be based on students prior knowledge from previous lessons taught and on the Kentucky core content standards that must be covered at every grade level. Next, based on the Howard Gardner's (1989) multiple intelligences theory, the teacher will be able to use their creativity to determine

what kind of activities to use in their lessons to help equalize the students learning experience. Once a teacher begins imagining the objectives, standards and activities needing to be taught, the interdisciplinary approach continues by creating a lesson plan based on combining and synthesizing two disciplines.

For lesson plan A, I chose to integrate Mathematics and Art and in lesson plan B, I chose to integrate Social Studies and Music. I based my objectives for each lesson plan on the Broad Model Approach. Lesson plan A focuses on overlapping Math elements and Art Elements that overlap. Lesson plan B employs Social Studies elements and Music elements that overlap. I used the Kentucky core content standards and listed the student's prior knowledge to base the interdisciplinary foundation upon.

For both, I imagined the integration of the two disciplines in order to use my creativity, for activities that would increase student's extrinsic motivation. Creating the activities I applied my intrinsic motivation to increase the overall education experience for students so they could have a 'more comprehensive understanding' by using the Broad Model Approach. It is shown that, "Interdisciplinary studies courses can be thoroughly relevant and innovate, enhancing student's motivation to learn, which can make them highly effective" (Augsburg, 2006, p. 85) thus allowing students extrinsic motivation to rise. In both lesson plan A and B there are sections describing the assessments and how they relate to the units. In these, one can find the objectives listed again along with type of assessment to acknowledge if students have 'a more comprehensive understanding' between the integration of Math and Art in lesson plan A and integration of Social Studies and Music in lesson plan B. In the assessments, I use an

example of creating the common ground like the performance checklist when observing the students who reach 'more comprehensive understanding'.

Overall, so that the variety of assessments are intelligence fair, I base a variety of assessments on using Howard Gardner's (1989) multiple intelligence theory. For example, assessing students based on a variety of multiple intelligences, lesson plan A has visual /spatial learning in objective one in use of the word wall, a funny picture for discussion and the application of watercolor applied and discussed by students. These examples are also interpersonal because of the different class discussions. In lesson plan A, the number picked out of a basket by students represents the denominator each individual will use later to create adding and subtracting writing assessments of fractions (mathematical/logical) from the art elements applied. In lesson plan A, objective four, students are assessed by presenting art to the class and writing a paper (verbal/linguistic) about identifying art elements used in their own project. In contrast, another example of creating a variety of assessments is in lesson plan B, objective three, where students are assessed by playing the maracas and xylophone to express elements of music (musical/rhythmic). With each lesson plan, through the assessing of different multiple intelligences, teachers can explain to students why some assessments/assignments are easier and how the students can reach self-actualization individually.

To continue following, both lesson plans A and B have the objectives stated a second time, the assessments for each objective including the instructional strategies that explain how to teach the activities, and the material needed so teacher is organized and prepared. Toward the ending of each lesson plan, a synthesis of the disciplines is apparent with step-by-step procedures for teachers to apply lessons of interdisciplinary

studies, in order to pull together and integrate disciplinary insights to creatively find overlapping concepts and common ground. For instance, in lesson plan A the Broad Model Approach can be identified in steps 11 through 14. Here, students are encouraged to apply elements and principles of art, using the denominator picked from an earlier step; toward the end of the section of applying elements of Art, the teacher explains the elements of math using fractions that are visible in the art created. This activity creates broader knowledge from overlapping elements to seek a clear understanding which completes the common ground of interdisciplinary methods.

An example of positive reinforcement from educating with interdisciplinary studies is in lesson plan B, using Slomovits (1988) song "Hello" for students to sing hello in different cultural languages like Swahili and Arabic. Additionally, using the picture box in the same lesson plan to take one picture and find the connecting food or cultural aspect of another student's picture is positive reinforcement. These examples let students experience of participating in fun activities while contributing to a variety of multiple intelligences that provide self-confidence and positive reinforcement. Disguised as games, these activities create a passion for learning.

Teachers can accomplish creativity by interacting new ideas and physical ways added to ordinary ways of educating. Other representations of creativity include: In lesson plan B, objective one the teacher webs pictures on the board to explain what a tradition is; in objective two the teacher has children to sing Slomovits (1988) "Hello" song uses a map to point to locations from the songs locations on the board, in objective three the teacher has students use colored markers on a matching sheet and employs musical instruments to assess; in objective four the teacher uses a picture box for students

to have an interacting matching activity. Also in lesson plan A by the teacher using watercolors to explain fractions. This is important as students become curious when teachers use creativity to educate. The broader content when using interdisciplinary methods also makes creativity easier to employ. The creativity in lesson plan A integrating Math and Art, uses a watercolor project to spark kids curiosity on what can created during the project in order to motivate the student, help them have a passion for learning and improve the overall education experience.

Ultimately it is my goal to transform education to include interdisciplinary methods with creativity. It is important so that students are able to learn about themselves and others, understand how to apply skills to solve problems, develop new interests, have a ‘more comprehensive understanding,’ be motivated, and reach self-actualization toward their adulthood.

Lesson Plan A

Name: _____April R. Cowles_____ Date: __20 October 2014_____

# of Students: _____ Age/Grade Level: _Fourth__ Content Area: _Integrated Math & Art____

(# of IEP Students: _____ # of GSSP Students: _____ # of LEP Students: _____) – not required

Unit Title: _Beginning of Fractions and Elements of Art____ Lesson Title: ___Seeing is Remembering__

Essential Questions/Objectives:

1. To discuss and apply the elements of art.
2. To create and describe fractions integrating art using models
3. To identify and use fractions within the same whole number
4. To identify and present elements of art

Connections:

MA-4-DAPS-CD1: Students will draw conclusions on based data

MA-4-NPO-S-NS9: Students will develop equivalent relationships between commonly used fractions, decimals, and/or whole numbers. e.g. = ½ =0.5, 2/2=1

AH-04-1.4.1: Students will identify or describe elements of art and principles of design in works of art.

AH-4-SA-S-VA2: Students will use the elements of art and principles of design in creating artworks independently with others.

Student's Prior Knowledge:

-How to use whole numbers with addition and subtraction

-Understands rounding decimals

-How to multiply one digit numbers and two digit numbers for division

-How to name and describe the elements and principles of art.

Describe Assessments and how they relate to the unit:

Objective 1: To discuss and apply the elements of art-formative assessment-Discussion over the

review of elements and principles of art including application with watercolors while using the elements of art.

Objective 2: To create and describe fractions integrating art using models-formative assessment-Create watercolor pictures by using a whole number limited to fractions with denominators 2, 3, 4, 5 ,6 ,8 ,10 , 12 using only two colors each; describe why art created is a fraction of the whole number picked

Objective 3: To identify and use fractions within the same whole number-formative assessment-Checklist. Students will be separated into groups by denominator and will be asked to give example of addition and subtraction of numerator on paper.

Objective 4: To identify and present elements of art-summative assessment-After presenting elements of art in front of class the students will be asked to write a one page paper to identify the elements of art used in their project

Lesson Objectives/Learning Targets	Assessment	Instructional Strategies/Activities
Objective 1 To discuss and apply the elements of art	Description-Formative- Differentiated Assessment Plan Aural, Visual	Strategy/Activity- To have students engage in discussion over elements and principles of art; by using picture and word wall have students apply minimum of three of the elements and minimum of two principles to project watercolors. Differentiated Strategy/Activity Discussion will be done aurally and watercolor project will be visual Media/Technology/Resources One pack watercolors per two students, individual paint brush, 25 salt packets, water, empty egg carton per student, twelve white crayons, wood-free paper
Objective 2 To create and describe fractions integrating art using models	Description-Formative- Differentiated Assessment Plan Visual, Aural	Strategy/Activity- Create watercolor pictures by using a whole number limited to fractions with denominators 2,3,4,5,6,8,10,12 using only two colors each; describe why art created is a fraction of the whole number

		Differentiated Strategy/Activity Creating and even amount of squares or rectangles on wood-free paper and application of watercolor is visual ; describing why the whole number picked by student is denominator and how they applied two colors to shapes; lesser color applied is numerator which leading to fraction of whole number is aural Media/Technology/Resources Examples of watercolor project created, blackboard and chalk to write out fraction examples
Objective 3 To identify and use fractions within the same whole number	Description-Formative- Differentiated Assessment Plan Visual, Aural	Strategy/Activity- Students will be separated into groups by denominator picked and will be asked to give example of addition and subtraction of numerator on paper then present to class why the sum is correct. Differentiated Strategy/Activity- Writing examples of addition and subtraction of the fraction is visual; presenting to the class why the sum of the fraction is correct is aural Media/Technology/Resources Performance checklist Paper, pencils
Objective 4 To identify and present elements of art	Description-Summative- Differentiated Plan- Visual, Aural	Strategy/Activity- After presenting elements of art in front of class the students will be asked to write a one page paper to identify the elements of art used in their project Differentiated Strategy/Activity- Presenting watercolor project to class to identify elements is

		aural; writing one-page paper over what elements and principles of art chosen individual project is visual Media/Technology/Resources Paper, pencils, word wall

Procedure

Objective 1:

1. T motivates S by having funny picture hanging from chalkboard when students arrive.
2. T asks S "What do you think about this picture?"
3. After S answers, T points to word wall of art elements and principles.
4. T asks S to individually describe where elements and principles reside in funny picture.
5. S must use ruler, in front of class, to point and describe 1 element and 1 principle of art from picture.
6. T passes basket of denominator numbers around for S to pick 1 folded number representing number of folds needing to apply to their wood-free paper.
7. T explains to students they can fold their wood-free paper to squares, triangles, or rectangles that is equivalent to picked number. T emphasizes the shapes must be visibly equal in size.

Objective 2:

1. T explains that the number of folds represents the denominator. In following T says the denominator is simply the whole number used and is always the bottom number of a fraction.

2. T instructs students to use only two watercolors (so the results example fractions)

3. T explains watercolors chosen must be individually applied to each shape (S may not individually folded shape including two colors).

4. 4. T encourages S to create elements and principles of art by using white crayons before applying watercolor or by using salt after applying watercolor.

5. T gives students 15 minutes to apply elements and principles of art. T walks around checking art to be sure S is applying only one watercolor to individual shape.

6. When time gets closer to being up T describes to S how the numerator of a fraction is just a portion of a whole number. T explains so the lesser color applied represents the numerator. (If colors are even T describes that each color represents ½ of the whole number and also mentions that is 50 % one color and 50 % another color making 1 whole number.)

7. Time being up T presents T example of watercolor project explaining why art is example of fraction. Once again T explaining # of folds is denominator and lesser color used is numerator. T shows example on board how fraction is written. (numerator/denominator)

Objective 3:

1. T separates S into groups by denominator number. T ask students to use separate paper and pencil to write what their fraction is from their art created.

2. T instructs S to work in their groups to write examples of addition and subtraction. T explains since denominators are same in groups the larger fraction is written on left side -/+ smaller fraction on right so addition and subtraction can be done straight across. T explains denominator stays the same since within the same whole number.

3. T uses checklist and observes by walking around the class to assess that S understands how to identify and use fractions within the same whole number.

4. T ask groups to take turns representing their fractions on chalkboard and to show watercolor art to class so class has visual understanding of other denominators and why adding and subtracting fractions can be understood visually.

Objective 4:

1. T instructs groups presenting before taking a seat individually explain to class where each S applied element and/or applied elements and principles of art they used in own watercolor project. T uses checklist to assess during this part.

2. After entire class presents T instructs S use same sheet of paper wrote fractions on and flip it over to individually write one page paper explaining what numerators, denominators are and how they are used to represent fractions. The students are to include why they chose the colors they did in art project and what elements and principles from the word wall they chose to apply in their own project.

Performance Checklist

Objectives / Student Names																		
Students understand how to identify and use fractions within the same whole number																		
Students understand how art project created aides understanding when adding and subtracting fractions within the same whole number																		
Students recognize the elements and principles of art applied																		

$: Excellent *: Medium understanding +: Needs improvement

Kind of funny pictures I like choosing for my lesson plans. ("Fat-Cat," June 2014)

Lesson Plan B

Name: _____April R. Cowles_____ Date: __24 October 2014_____

# of Students: _____ Age/Grade Level: _First _ Content Area: Integrated Social Studies & Music____

(# of IEP Students: _____ # of GSSP Students: _____ # of LEP Students: _____) – not required

Unit Title: _Discovering Diverse Cultures Exist__ Lesson Title: __Learning Languages through Music__

Essential Questions/Objectives:

8. To discover and describe diverse cultures (French, Japanese, Jamaican, Mexican, Australian...)
9. To discuss and perform different music elements through diverse languages (Italian, Arabic, Swahili, Hindi, Hebrew…)
10. To create and recognize musical elements
11. To compare and identify diverse cultures

Connections:

SS-EP-2.1.2: Students will study a variety of diverse cultures locally and in the world today and explain the importance of appreciating and understanding other cultures

AH-P-IAA-S-1: Students will begin to recognize that common terms are used in various arts (e.g. tempo in dance and music)

AH-P-SA-S-Mu2: Students will use elements of music while performing, singing, playing, instruments moving, listening, reading music, writing music and creating music independently and with others

SS-EP-2.1.1: Students will describe, cultural elements (e.g. beliefs, traditions, languages, skills, literature, and the arts)

Student's Prior Knowledge:

-Aural Awareness

-Listened to and performed music created to fulfill specific purposes

-Discussed a book *People,* by Peter Spier, to begin the idea that different people and how they are the same

-Discovered or created individual family traditions through the prior art project

Describe Assessments and how they relate to the unit:

Objective 1: To discover and describe diverse cultures around the world-summative assessment-Teacher has students write sentences and draw a picture by giving them the inference topics on their paper, what does culture mean to you and how does different cultures add good things to the United States?

Objective 2: To discuss and perform different music elements through diverse languages-formative assessment-Students will sing *Hello* song with teacher and teacher will use students for samples of music elements students are performing checklist will be used

Objective 3: To create and recognize musical elements-formative assessment-using maracas and xylophone students will individually express tempo and dynamics, elements of music, and be issued matching worksheets

Objective 4: To compare and identify diverse cultures-formative assessment-picture box will be used for students to match diverse foods to cultures discussed from *Let's Eat,* by Beatrice Hollyer, Venn Diagrams will be used to compare cultures to students individual culture, and each student will be given a chance to stand up and explain which culture learned about during lesson that the appreciated and why, e.g. because they have good food, or I like their language.

Lesson Objectives/Learning Targets	Assessment	Instructional Strategies/Activities
Objective 1 To discover and describe diverse cultures around the world	Description-Summative Differentiated Assessment Plan Visual, Aural	Strategy/Activity- Read *One World, One Day* discussing different cultures, (American, North Korean, Spanish) and their elements then students are to write sentences that has topics on paper already Differentiated Strategy/Activity Reading will be aural, discussion is aural, and writing is visual Media/Technology/Resources *One World, One Day* book, pencils, sentence sheets, chalkboard
Objective 2 To discuss and perform different music elements through diverse languages	Description-Formative- Differentiated Assessment Plan Aural, Visual	Strategy/Activity- Students will sing *Hello* song with teacher and teacher will use students for explaining music elements; teacher will have large map to give students idea of where the locations of places be sung about are located Differentiated Strategy/Activity Singing will be done aurally Using map is visual Media/Technology/Resources *Hello* song, by Laszlo Slomotvits, Map of locations on Smart board preferably
Objective 3 To create and recognize musical elements	Description-Formative- Differentiated Assessment Plan Visual, Aural	Strategy/Activity- using maracas and xylophone students will individually express tempo and dynamics, elements of music, learned from *Hello* song by Laszlo Slomotvits, being assessed with checklist and being issued music elements matching worksheets Differentiated Strategy/Activity

		Music used is aural and worksheets are visual, checklist is both Media/Technology/Resources Xylophone, maracas, matching worksheets, colored markers and checklist
Objective 4 To compare and identify diverse cultures	Description-Formative- Differentiated Assessment Plan Visual, Aural	Strategy/Activity-Read *Let's Eat,* by Beatrice Hollyer, then introduce picture box which will be used for students to match diverse foods to cultures discussed from *Let's Eat,* by Beatrice Hollyer. Venn Diagrams will be used to compare cultures to students individual culture, and each student will be given a chance to stand up and explain which culture learned about during lesson that the appreciated and why, e.g. because they have good food, or I like their language. Differentiated Strategy/Activity Reading books is aural, Picture box matching is visual, Venn diagrams are visual and individual students comments on what they appreciate the most from different culture then their own is aural Media/Technology/Resources Book *Let's Eat,* by Beatrice Hollyer, Individual Venn Diagrams,
Procedure Objective 1 1. T begins class in reading circle asks the class to remember the book they read last week *People* 2. T reads *One World, One Day* by Barbara Kerley		

3. T explains that a culture is a group of people that shares the same language, traditions, style of clothes, and food.
4. T discusses with S that there are many different cultures in the world.
5. T explains that a culture is a group of people that shares the same language, traditions, style of clothes, and food.
6. T ask does anyone know what a tradition is?
7. T explains to students a tradition is something passed on to children from family members.
8. T explains to students while webbing pictures on board, traditions can be eating specific foods on holidays, decorating certain ways when celebrating, or specific patterns family members pass down to their children like wedding bands or recipes from grandparents to parents to children.
9. T explains different cultures have different languages that are fun to listen to and try to pronounce.
10. T passes out sentence sheets that have two different topics for student to discuss. First topic: What does culture mean to you? Second topic: How does different cultures add good things to the United States?

Objective 2:

1. T picks up sentence sheets and has class stand up to form a circle.
2. T turns on Smart board to map pictures of locations about to be sung about from song *Hello*.
3. T plays song *Hello*, by Laszlo Slomovits and points to locations on map being sung about as song plays.
4. T splits class up and ask half the class to sing first line of chorus and other half the class to sing second half of chorus after first half of class finishes.
5. T will point to side of class when it is time for them to sing. T sings as well all lines to chorus.
6. T has students join hands to sing.
7. T has first half repeat singing first line of chorus.
8. T has second half circle sing second line of chorus again in following of first line.
9. T identifies to class since the song is split in half in two parts they are creating harmony.
10. T has the entire class sing whole song twice together with T. During the chorus class remains in two parts singing.
11. After singing song two times T instructs first half of students to sing first line of chorus LOUD and second half class sings second part of chorus soft.
12. T uses S to explain music has dynamics we can hear (e.g. how loud or how soft we sing)
13. T mentions that the volume is different but it is still the same song like cultures just different people.
14. S repeats chorus again listening including dynamics again.
15. T ask ½ class to sing ‘har’ and other half of class to sing ‘mony’ reminding S harmony happens when creating songs to be 2 parts.
16. T challenges S to sing chorus as fast as they can then as slow as they can.
17. T describes the speed normal, fast, or slow of how they sing the song is music element tempo.
18. T has S act silly together and by singing the word ‘tempo’ as fast as they can and as slow as they can.

Objective 3:

1. T passes out matching worksheets and ask students to use colored markers to match music elements to pictures.
2. As students are working T has maracas and xylophone on table. T calls on individual S to show examples of dynamics with xylophone and tempo with maracas.
3. T uses checklist to assess S understanding of music elements (dynamics and tempo)

Objective 4:

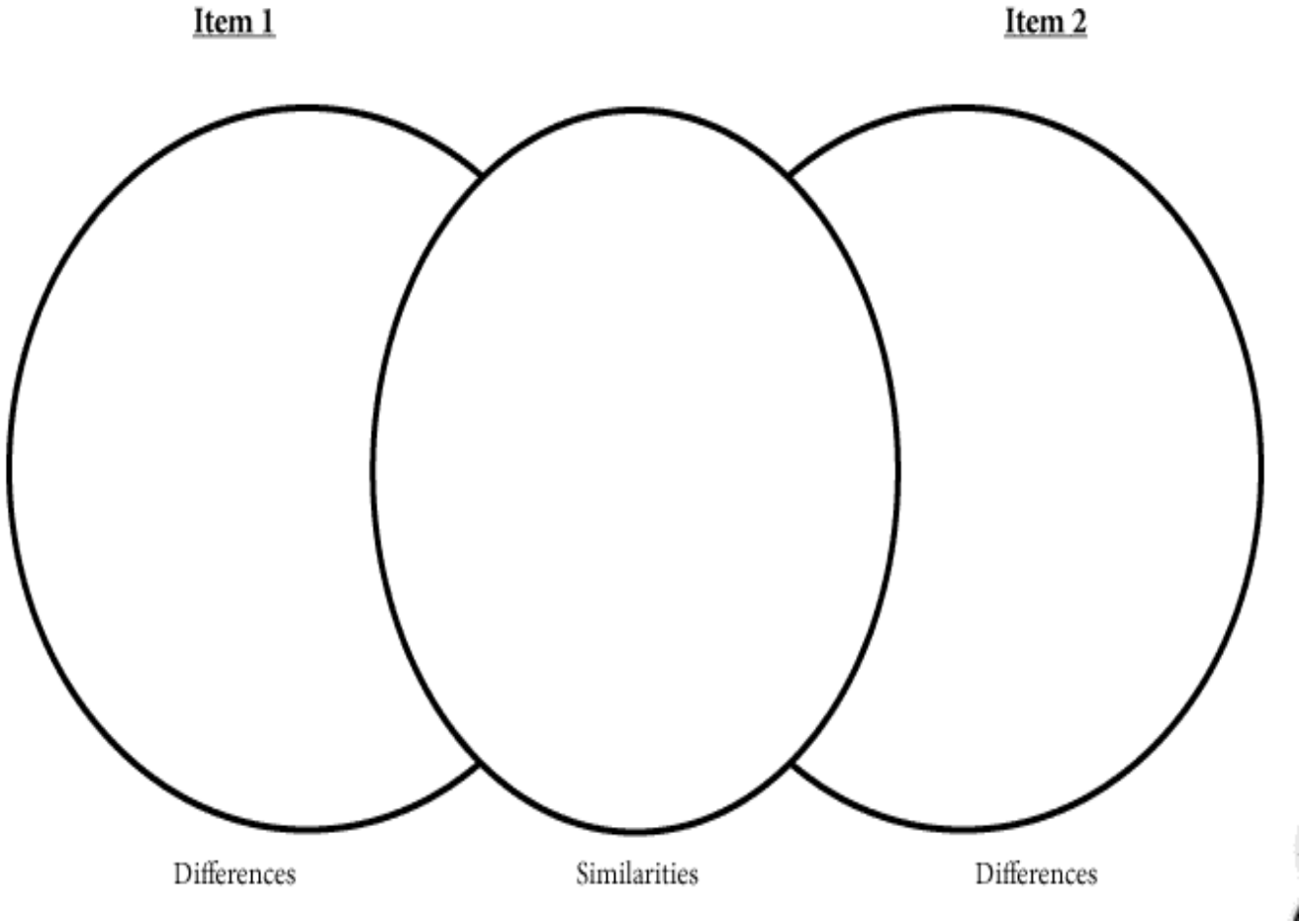
1. All S being seated T ask for three deep breaths from S.
2. T requests S to gather in reading circle again.
3. T ask S who can explain culture again?
4. After S answers T mentions different cultures brings different foods to make kids curious of what kinds of food. T ask what is a food that S thinks come from a different culture?
5. After several answers from S…T introduces book *Let's Eat* and has kids give assumptions on what type of what types of food are in the pictures of the book and what culture it may be as teacher reads.
6. T has S return to desk and passes out individual copies of Venn Diagrams.
7. T ask S to think about a culture and what makes them different from individual S culture.
8. T explains S culture goes in left side of Venn Diagram not part that overlaps.
9. T explains different culture chose goes in right side of Venn Diagram not part overlapping.
10. T instructs students to think of needs of both cultures and write those in middle overlapping part of Venn Diagram.
11. While the S fills out Venn Diagram T plays *Hello* song again.
12. When S finishes T reveals picture box. (A shoebox decorated with maps on outside.)
13. T gets S interested by having them guess what is in the box.
14. T opens box slowly and acts like something is going to jump out.
15. S laugh and T lets S pick out one picture from the box.
16. Each S has a picture of a different culture person or different cultural food.
17. When each S has one picture T instructs S to find another S to pair up with that shares the matching cultural food to correct cultural person.
18. Once S have completed picture box matching project S will be individually asked to explain which culture learned about during lesson that the appreciated and why, e.g. because they have good food, or I like their language.

Performance Checklist

Objectives / Student Names																		
Student understands dynamics of music																		
Student understand tempo of music																		
Student can explain what harmony is																		

Check mark: Full understanding %: Moderate +: Needs work

Venn Diagram Modified



HELLO!

(By Laszlo Slomovits / ASCAP c 1988 Laszlo Slomovitz)

(Chorus:)

Hello, hello, hello! Hi, hi, hi!

Hello, hello, hello! Hi!

In France, they say "salut"

In Japan, they say "ko-nee-chee-wa"

In Kenya, they say "jambo", [Swahili]

and in Mexico, they say "hola"!

(Chorus)

In Italy, they say "bon giorno"

In Egypt, they say "salaam" [Arabic]

In Denmark, they say "goddag",

and in Israel, they say "shalom"! [Hebrew]

(Chorus)

In India, they say "namastay" [Hindi]

In China, they say "nee-how"

In Jamaica, they say "hey mon",

and in Australia, they say "good day, mate"!

(Chorus)

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